

What is claimed is:

1. A herbicidal synergistic composition comprising, in addition to customary inert formulation excipients, a mixture of
 - 5 a) at least one acetamide and
 - b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of C13-C20 fatty acids, C13-C20 fatty alcohols and hydrocarbon fluids.
- 10 2. The herbicidal composition of claim 1 wherein the ratio (wt/wt) of a) to b) is 90:1 to 1.5:1.
3. The herbicidal composition of claim 1 wherein the acetamide
- 15 comprises at least one member selected from the group consisting of diphenamid, napropamide, naproanilide, acetochlor, alachlor, butachlor, dimethachlor, dimethenamid, dimethenamid-P, fentrazamide, metazachlor, metolachlor, pethoxamid, pretilachlor, propachlor, propisochlor, S-metolachlor, thenylchlor, flufenacet and mefenacet.
- 20 4. The herbicidal composition of claim 3 wherein the acetamide comprises a mixture of the (S) and (R) isomers of metolachlor in the ratio of 50-100% (S) to 50-0% (R).
- 25 5. The herbicidal composition of claim 1 wherein the lipophilic additive is saturated.
6. The herbicidal composition of claim 5 wherein the lipophilic additive comprises stearic acid.
- 30 7. The herbicidal composition of claim 5 wherein the lipophilic additive comprises stearyl alcohol.

8. The herbicidal composition of claim 1 wherein the lipophilic additive comprises a hydrocarbon fluid.

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9. The herbicidal composition of claim 8 wherein the hydrocarbon fluid contains less than 2.0 wt.% aromatic component.

10. The herbicidal composition of claim 8 wherein the hydrocarbon fluid 10 contains greater than 50 wt.% paraffins.

11. The herbicidal composition of claim 8 wherein 50-100% wt.% of the paraffins present in the hydrocarbon fluid are iso-paraffins.

15 12. The herbicidal composition of claim 11 wherein 90-100% wt.% of the paraffins present in the hydrocarbon fluid are iso-paraffins.

13. The herbicidal composition of claim 8 wherein at least 95 wt.% of the carbon structures of the hydrocarbon fluids have a carbon number 20 distribution of from C13 to C20.

14. The herbicidal composition of claim 8 wherein the hydrocarbon fluid comprises a synthetic iso-paraffin fluid.

25 15. The herbicidal composition of claim 1 further comprising a safener.

16. The herbicidal composition of claim 1 further comprising a co-herbicide.

30 17. The herbicidal composition of claim 1 wherein the herbicidal composition is a soil-applied, preemergent herbicidal composition.

18. A method of controlling undesired plant growth in the presence of cultivated plants, which comprises treating the cultivated plants, plant parts, seed or the locus thereof with a herbicidally effective amount of the herbicidal composition according to claim 1.

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19. The method according to claim 18, wherein the cultivated plants are selected from the group consisting of cereals, rape, sugar beet, sugar cane, rice, maize, plantation crops, soybeans and cotton.

10 20. The method of claim 18 wherein the cultivated plants comprise transgenic plants or herbicidally tolerant plants created by conventional breeding.

15 21. The method according to claim 18 wherein the herbicidally effective amount of the composition is applied to the soil as a preemergent herbicide.

22. The method of claim 18, which further comprises treating the cultivated plants, plant parts, seed or the locus thereof with a co-herbicide.

20 23. The method of claim 22, which comprises treating the cultivated plants, plant parts, seed or the locus thereof at separate times with the herbicidal composition and the co-herbicide.

24. The method of claim 18, which further comprises treating the cultivated plants, plant parts, seed or the locus thereof with a safener.

25 25. The method of claim 24, which comprises treating the cultivated plants, plant parts, seed or the locus thereof at separate times with the herbicidal composition and the safener.

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